

## **AO-assisted integral-field and long slit spectroscopy: investigating brown dwarfs and exoplanets**

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In this contribution I will present and discuss the exploitation of AO-assisted spectroscopic instrumentation (both integral field and long-slit) in order to detect and characterise exoplanet and brown dwarf population.

Fundamental information on mass, separation, age, surface gravity and clouds (more in general atmospheric properties) can be inferred via this kind of observations, overcoming degeneracies that plague photometry. This has significant impact on our understanding of formation and evolution mechanisms for sub-stellar objects, still debated.

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